

STATEMENT OF BASIS

for draft Louisiana Pollutant Discharge Elimination System permit No. LA0122025
to discharge to waters of the State of Louisiana.
AI No.: 131034 / Activity No.: PER20050001

THE APPLICANT IS: United Water System, Inc.
1004 Twin Oaks Drive
Arnaudville, Louisiana 70512

ISSUING OFFICE: Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313

PREPARED BY: Aaron Cox

DATE PREPARED: February 21, 2006

1. PERMIT STATUS

- A. NPDES permit - NPDES permit effective date: NA
NPDES permit expiration date: NA
EPA has not retained enforcement authority.
- B. LWDPS permit - NA
LWDPS permit effective date: NA
LWDPS permit expiration date: NA
- C. Date Application Received: October 5, 2005; additional information received from applicant February 17, 2006

2. FACILITY INFORMATION

A. FACILITY TYPE/ACTIVITY - Potable Water Treatment Plant

The facility is an existing water treatment plant consisting of two water wells, aerolator, one ten foot diameter filter and one seven foot diameter zeolite ion-exchange water softener. Treatment is followed by chlorination prior to storage and distribution. The facility is being upgraded in order to comply with new regulations regarding arsenic in drinking water, as well as to provide for future growth. The proposed improvements will consist of the installation of two 84 inch diameter filters between the existing gravity filter and the existing ion-exchange softener. The design capacity of the filters will be approximately 765 gpm. Backwash will be achieved with 8-10 gpm/ft² of water. For softening, the existing 10 foot diameter pressure filter will be converted to an ion exchange softener and the existing softener will be removed from service. The treated water will then be stored in an existing 125,000 gallon ground storage tank and then pumped to the distribution system as necessary.

Backwash waste water will be generated from backwashing of the 84 inch diameter filters and the 10 foot diameter softener. Backwash water and softener regeneration wastewater will be sent to a backwash waste settling pond prior to

discharge into a local drainage ditch, thence to Grand Canal, thence to Bayou Portage with an average flow of 24,880 GPD. The settling pond will be cleaned periodically to remove settled solids and restore storage volume.

The sanitary discharge from the facility is treated by a mechanical treatment plant. This discharge is estimated at less than 100 GPD.

B. FEE RATE

1. Fee Rating Facility Type: minor
2. Complexity Type: I
3. Wastewater Type: III
4. SIC code: 4941

C. LOCATION - 1004 Twin Oaks Drive, Arnaudville,
St. Martin Parish
Latitude +30° 23' 08", Longitude -91° 54' 28"

3. **OUTFALL INFORMATION**

Outfall 001

Discharge Type: filter backwash and softener regeneration wastewater

Treatment: settling pond

Location: at the point of discharge from the settling pond prior to mixing with other waters

Flow: 24,780 GPD

Discharge Route: via pipe to local drainage thence to Grand Canal, thence to Bayou Portage

Note: Stormwater runoff is not required to be limited at this facility as per LAC33:IX.2341.B.14.a-k.

Outfall 002

Discharge Type: treated sanitary wastewater

Treatment: STP with aeration

Location: at the point of discharge from the STP prior to mixing with other waters

Flow: 100 GPD

Discharge Route: via pipe to local drainage thence to Grand Canal, thence to Bayou Portage

4. **RECEIVING WATERS**

STREAM – Outfall 001 & Outfall 002 – via pipe to local drainage to Grand Canal, thence to Bayou Portage

BASIN AND SEGMENT – Vermilion-Teche River Basin– Subsegment 060211

DESIGNATED USES -
a. primary contact recreation
b. secondary contact recreation

c. propagation of fish and wildlife

5. EXISTING EFFLUENT LIMITS

NA; facility has never been permitted

6. PROPOSED EFFLUENT LIMITS

BASIS – See rationale below.

6. COMPLIANCE HISTORY/COMMENTS

A. Compliance History

NA; facility has never been permitted.

B. DMR Review/Excursions

NA; facility has never been permitted

8. ENDANGERED SPECIES

The receiving water bodies and proposed discharge are not listed in Section II.2 of the Implementation Strategy as required consultation with the U.S. Fish and Wildlife (FWS). This strategy was submitted with a letter dated October 21, 2005 from Watson (FWS) to Gautreaux (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. It was determined that the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

9. 303 (d) LISTED WATERBODIES

Subsegment 060211; West Atchafalaya Borrow Pit Canal-From Bayou Courtableau to Henderson, La., includes Bayou Portage; is not listed on LDEQ's Final 2004 303(d) list as impaired. However, subsegment 060211 was previously listed as impaired for organic enrichment / low DO, suspended solids, and turbidity/sedimentation/siltation, for which the below TMDLs have been developed. The Department of Environmental Quality reserves the right to impose more stringent discharge limitations and/or additional restrictions in the future to maintain the water quality integrity and the designated uses of the receiving water bodies based upon additional TMDLs and/or water quality studies. The DEQ also reserves the right to modify or revoke and reissue this permit based upon any changes to established TMDLs for this discharge, or to accommodate for pollutant trading provisions in approved TMDL watersheds as necessary to achieve compliance with water quality standards.

The following TMDL's have been established for subsegment 060211:

West Atchafalaya Basin Protection Levee Borrow Pit Canal TMDL for Dissolved Oxygen

As per the TMDL, "no point source upgrades are recommended because there are no point source discharges that have a significant impact on DO in the Borrow Pit Canal." Therefore, the permit limits shall be set according to state policy.

Total Maximum Daily Load (TMDL) for TSS, Turbidity, and Siltation for the Bayou Teche Watershed

"Point sources do not represent a significant source of TSS as defined in this TMDL. Point sources discharge primarily organic TSS, which does not contribute to habitat impairment resulting from sedimentation. Because the point sources are minor contributors and discharges of organic suspended solids from point sources are already addressed by LDEQ through their permitting of point sources to maintain water quality standards for DO, the WLAs for point source contributions were set to zero. This TMDL only addresses the landform contribution of TSS/sediment and does not address the insignificant point source contributions."

A reopener clause will be established in the permit to include more stringent limits based on final loading allocations in any future TMDL.

10. HISTORIC SITES

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

11. TENTATIVE DETERMINATION

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to issue a permit for the discharge described in the application.

12. PUBLIC NOTICES

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the statement of basis. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation
Office of Environmental Services Public Notice Mailing List

Rationale for Water Treatment Plant

1. Outfall 001 – filter backwash and softener regeneration wastewater

<u>Pollutant</u>	<u>Limitation</u> Mo. Avg; Daily Max (mg/l)	<u>Reference</u>
Flow (GPD)	---: Report	LAC 33:IX.2361.I.1.b
Total Recoverable Iron	---: Report	Similar discharges** (BPJ)
Chlorides	4,700: 11,200 mg/l	Similar discharges** (BPJ)
Clarifying Agents Used	---: Report	Similar discharges** (BPJ)
TSS	30: 45 mg/l	Similar discharges** (BPJ)
pH	6.0 - 9.0 su	Similar discharges** (BPJ)

Treatment: settling pond

***Monitoring Frequency:** Once per quarter for Total Recoverable Iron and Chlorides; once per month for Flow, Clarifying Agents, TSS, and pH at the point of discharge from the settling pond prior to mixing with other waters.

***Limits Justification:** For all parameters except Chlorides, limits and monitoring frequencies are based on the general permit for potable water treatment plants (LAG380000) effective on January 1, 2005, raw water from ground water sources. A water quality screen was performed to calculate a water quality based limit for chlorides. The harmonic mean was used in the water quality calculation for chlorides per LAC 33:IX 1115.C. The facility's actual reported chloride measurement was 4,600 mg/l (monthly average). The cut-off values calculated for WQ-based limits are 4,697.02 mg/l (monthly average) and 11,150.9 mg/l (daily maximum). BPJ limits of 4,700 mg/l (monthly average) and 11,200 mg/l (daily maximum) were established in the permit to allow for potential variation in the effluent. Based on the ambient conditions and uses of the receiving stream confirmed during field observations on January 26, 2006, a standard of 250 mg/l was used for chloride calculations (LAC 33:IX.1113.C.2).

Note: The Potable Water Treatment Plant General Permit is not appropriate for this facility because the facility treats the raw water by means of a zeolite ion exchange in the softening process which produces a high chloride concentration in the wastewater because the zeolite is recharged using a sodium chloride solution.

BPJ Best Professional Judgment
 GPD Gallons per Day
 su Standard Units

NOTE

For outfalls containing concentration limits, the usage of concentration limits is based on BPJ for similar outfalls since the flow is variable and estimated.

2. Outfall 002 – treated sanitary wastewater

<u>Pollutant</u>	<u>Limitation</u> Mo. Avg: Weekly Avg. (mg/l)	<u>Reference</u>
Flow (GPD)	---: Report	LAC 33:IX.2361.I.1.b
Fecal Coliform colonies/ 100ml	---: 400 mg/l	Similar discharges** (BPJ)
TSS	---: 45 mg/l	Similar discharges** (BPJ)
BOD ₅	---: 45 mg/l	Similar discharges** (BPJ)
pH	6.0 - 9.0 su	Similar discharges** (BPJ)

Treatment: STP with aeration

***Monitoring Frequency:** Twice per year for each parameter

***Limits Justification:** For all parameters, limits are based on the general permit for Class I Sanitary Discharges totaling less than 5,000 gallons per day (LAG530000), Schedule A, Effective December 1, 2002. Monitoring frequency is established per similar discharges at industrial facilities.

NOTE

For outfalls containing concentration limits, the usage of concentration limits is based on BPJ for similar outfalls since the flow is variable and estimated.

BPJ Best Professional Judgment
 GPD Gallons per Day
 su Standard Units